

Challenger Wave



Monthly newsletter of the Challenger Society for Marine Science (CSMS)

NEWS

New Chief Executive at the National Oceanography Centre

Dr John Siddorn will officially start the role of CEO of the National Oceanography Centre (NOC) on 4th April 2024, bringing with him extensive experience in leadership in science, technology, and innovation. Dr Siddorn will be replacing Professor Ed Hill CBE, who announced his retirement from NOC in November 2023 after nineteen years of distinguished service leading the organisation; [Full news story](#). John Siddorn commented “I am excited to be taking on this role and working with the talented teams across NOC as they continue to provide world-leading science and innovation.”



Teledyne Marine expands with acquisition of Valeport

Teledyne Marine has agreed to acquire Valeport a market leader in the design and manufacture of underwater sensors and profilers. The acquisition expands the products and solutions offered by Teledyne Marine, a leading-edge subsea technology company. It sees Teledyne provide customers with a wider range of underwater solutions.

Valeport is one of the UK's leading manufacturers of oceanographic and hydrographic instrumentation. The independent family-owned business, which was established in 1969, designs and manufactures instrumentation for the oceanographic and hydrographic communities with a worldwide customer base that includes, subsea, hydrographic, metrological and positioning, oceanographic, ports, harbours, dredging, energy and scientific research sectors.

Ole Søe-Pedersen, VP & GM Teledyne Marine Europe said: “We are delighted that Valeport will join Teledyne Marine and expand our technology offerings. Valeport is a respected and recognized brand of underwater sensors and profilers and will complement the Teledyne Marine portfolio of technologies and solutions.”



(L-R): Valeport Managing Director, Matt Quartley and Ole Søe-Pedersen, VP & GM Teledyne Marine Europe

After 18 years at the helm, Matt Quartley and his leadership team will work with Teledyne Marine over the coming months to ensure a smooth transition for staff and customers alike. Matt Quartley, Managing Director of Valeport said: “Our family is very proud of where we have brought Valeport so far, but the time is right for the next phase of its journey, and I am so pleased that this will be as a part of Teledyne Marine. The prospect of working with the rest of the Teledyne group to bring our customers an even greater range of superb, high-quality products is something that we are incredibly excited about, and will undoubtedly be to the benefit of Valeport, Teledyne, and most importantly, all of our customers.”

Thank you to Ocean Frontier Institute and MEOPAR and Dalhousie University

Since April 2020, the Ocean Frontier Institute and Meopar (Marine Environmental Observation,

Prediction and Response Network) have hosted the IMBeR International Project Office based at Dalhousie University, Halifax, Nova Scotia, Canada. Sadly, this four-year hosting commitment will be coming to an end on 31st March this year, and the IMBeR IPO in Canada will be closing. IMBeR would like to offer our sincerest thanks for the support provided by these generous hosts. This support has been pivotal to the progression of IMBeR and its [science plan](#).

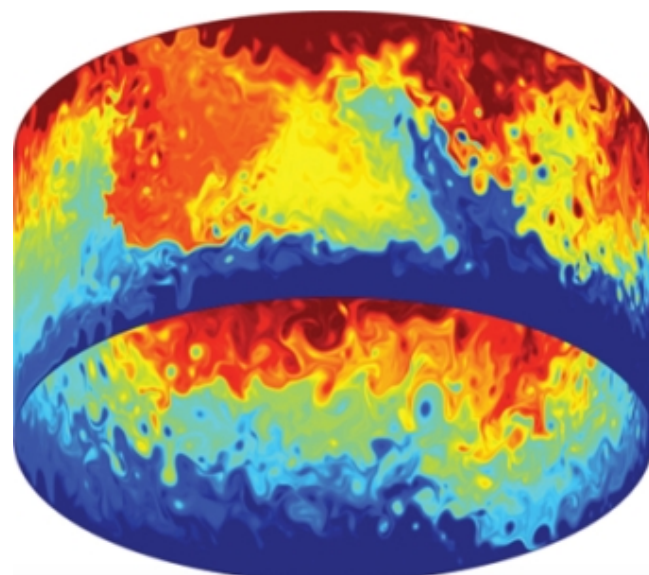
Together, during this four year period we have; progressed early career capacity development, Held or helped with administration of conferences, ESSAS Annual Science Meetings, while also progressing the planning for future conferences [IMBIZO7](#) (Morocco, September 2024) and Future Ocean3 (Colombia, March 2025). Most of which endorsed as activities of the UN Decade of Ocean Science for Sustainable Development.

We also developed the [IMBeR-OFI Marine Data Hub](#). None of these would have been possible without the support of the IPO's hosts. From 1st April, all administration of IMBeR will be carried out by the IPO in Shanghai, China (imber@ecnu.edu.cn).

New partnership for training the next generation of mathematical climate scientists

The National Oceanography Centre (NOC) has been announced as a major partner in a new £16 million centre for doctoral training (CDT). The Mathematics for our Future Climate CDT is led by Imperial College London and includes the University of Southampton and the University of Reading, plus other external partners across the UK and internationally. Partners bring expertise spanning the areas of ocean, weather and climate, in academic and government institutions and across a wide range of industries.

Climate change remains one of the biggest challenges to global society. Advanced mathematical approaches are needed, arguably now more than ever, as these are central to improving our understanding and prediction of climate change. Mathematical climate scientists help to answer key questions including how impacts of climate change such as extreme flooding, rapid ice melting, storms, droughts, wildfires, and ecosystem change, will affect us individually and collectively.



An idealised, mathematical model of the ocean, relevant to the transport processes that determine how heat and carbon are redistributed under climate change. © 2024 The National Oceanography Centre (NOC).

Mathematics is at the core of many major breakthroughs in climate science, bringing new conceptual understanding of a complex process or a practical solution to estimate something about the climate system, either past, present, or future. For example, the discovery of mathematical theories during the 1960s to 1980s, linked to chaotic systems, explained why some aspects of climate are unpredictable, while others are more predictable. These breakthroughs also provided a new conceptual understanding, simplifying the overall puzzle, and allowing climate scientists to optimise the design of experiments used in reports by the Intergovernmental Panel on Climate Change (IPCC). More advances, both incremental and fundamental, are needed and are enabled through collaboration.

The Mathematics for our Future Climate CDT will train graduates with strong mathematics, physics and engineering backgrounds, focussing on four areas:

- Fundamental mathematical advances needed to understand and anticipate the climate crisis, and to quantify and mitigate the risks associated with extreme events and cascading impacts of a changing climate
- Methods needed to exploit large-scale computing and big data

- Solutions to tackle climate change, enhance sustainability, and ensure economic prosperity and fairness by optimizing the effectiveness of renewable energy and the trade-off between mitigation and adaptation actions
- Tools to enable transparent, accessible, scalable, user-relevant and user-friendly analysis of real-time data

This new CDT forms part of a £1 billion investment into 65 Engineering and Physical Sciences Research Council (EPSRC) CDTs, announced recently by UKRI, with almost half of the total funding being provided as financial and in-kind support from business partners, public sector and charity partners.

More information, including the Ph.D. studentship projects for an October 2024 start, can be found at, <https://apply.mfccdt.ac.uk/start>. The Mathematics for our Future Climate CDT is led overall by Prof. Dan Crisan, Dept. of Mathematics at Imperial College London. The leads at other universities involved are: Prof. Alberto Naveira Garabato (University of Southampton) and Prof. Jennifer Scott (University of Reading). The NOC point of contact for this CDT is [Dr Chris Wilson](#).

Royal Society special issue

The following Royal Society *Philosophical Transactions A* issue has been highly cited and downloaded. "Heat and carbon uptake in the Southern Ocean: the state of the art and future priorities" organised and edited by Andrew J. S. Meijers, Corinne Le Quéré CBE FRS, Pedro M. S. Monteiro, Jean-Baptiste Sallée and the articles can be accessed directly at www.bit.ly/TransA2249. Purchase the print issue at the reduced price of £40 by contacting sales@royalsociety.org.

2024 meeting of the Waves SIG

Monday 18th March saw the 5th meeting of the Challenger Society Special Interest Group (SIG) on Surface Waves, at Worcester College Oxford. There were 20 scientists in attendance in person, with a further ten participating online. We had a range of topics covering detailed observations of an individual breaking wave, to the impact of lakes in a global earth system model. We were particularly pleased with the range of expertise on show, with talks from consultancy, academia, and operational centres. We had talks regarding

the skill (and limitations) of wave buoy and satellite data, getting to the heart of some of the sources of uncertainty in wave data and how to get the most out of wave observations.

New numerical methods were showcased, including the use of machine learning, and state-of-the-art wave models. During the day we had two discussion sessions, themed around science



priorities in wave research, and the development of strategic partnerships. In our lunch break our hosts gave a short tour of the Worcester College grounds, for informal observations of wave generation over their picturesque lake. I would like to extend my thanks to our sponsors; the University of Oxford, National Partnership for Ocean Prediction, Planet Ocean, and of course the Challenger Society.

A summary of the discussion session, and slides from the talks are [available online](#). If you would be interested in attending future meetings, or would like to join our mailing list, please contact Lucy Bricheno: luic@noc.ac.uk.

New NOC appointment

The National Oceanography Centre (NOC) are pleased to announce Professor Penny Holliday as their interim Director of Data, Science and Technology and Chief Scientific Officer. Prior to this appointment Prof. Holliday was their Associate Director for National Capability Science. Prof. Holliday is a physical oceanographer and her research has focused on the circulation and variability of the subpolar



North Atlantic, and the role of the ocean in the changing climate. She has participated in over 20 sea going expeditions, several as Chief Scientist.

Prof. Holliday has been working at the NOC since 1990 when she joined the Institute of Oceanographic Sciences Deacon Laboratory as a project manager for a global, multi-national research programme. She built her career as a research scientist at NOC having undertaken a part-time PhD which was awarded by the University of Liverpool in 2002.

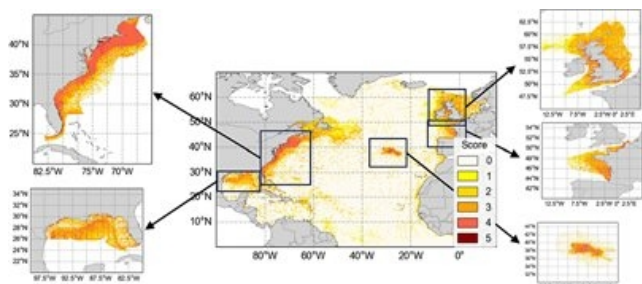
The Frederik Paulsen Arctic Academic Action Award

Action oriented scientific initiatives to fight climate change are celebrated with this prestigious. The winning initiative gets € 100,000, an honorary reception and dinner, and an opportunity to Implement their project through the UArctic Network. The Award is linked to the name of Frederik Paulsen who for decades has been a strong promoter of Arctic and Antarctic research and cooperation. The award deadline is the 30th April, so [apply](#) now.

IEWS

New study identifies five high-risk zones where plastic litter threatens whales, dolphins and seabirds of the North Atlantic

A new [study](#), led by Plymouth Marine Laboratory (PML), has identified five high-risk zones where plastic litter threatens whales, dolphins and seabirds of the North Atlantic. The modelling analysis identified high-risk zones (HRZs) as UK waters, the Azores, the French and US Atlantic



coasts and the US Gulf of Mexico. Whilst much of the land-derived plastic litter influencing risk in UK territorial waters originated from UK rivers, in other HRZs, such as the Azores archipelago and the US Gulf of Mexico, plastic originated from other regions, with most of the plastic in the

Azores estimated to have come from the Caribbean and US.

Dr Sam Garrard, lead author of the study and Marine Ecosystem Services Researcher at Plymouth Marine Laboratory, said: “These findings highlight the potential of Spatial Risk Assessment analyses to determine the location of high-risk zones and understand where plastic debris monitoring and management should be prioritised, enabling more efficient deployment of interventions and mitigation measures. UN member nations have consented to forge an international legally-binding agreement to tackle plastic pollution, called the [Global Plastics Treaty](#), with negotiations expected to be completed by the end of this year. This study highlights the importance of the treaty in ensuring international cooperation to reduce plastic consumption and waste, including the provision of financial support to help lower-income nations, such as the Caribbean islands, implement measures”.



If you would like any further information or would like to speak with the authors then please contact Dan Jones (PML’s Head of Marketing and Communications) on dajo@pml.ac.uk.

Salmon farming software showcased in Chile

The New DEPOMOD software is used by fish farms around the globe to predict dispersion of fish farm waste discharges in the marine environment. Computer software that allows salmon farmers to optimise production at their sites, while safeguarding the environment, was showcased at AquaSur, Chile in March.

NewDEPOMOD is a particle-tracking modelling software, designed to predict dispersion of fish farm waste discharges in the marine environment. It was developed by SAMS Enterprise, the commercial arm of Oban-based Scottish Association for Marine Science (SAMS), with support from the Sustainable Aquaculture Innovation Centre, working alongside the salmon farming sector and farm sites regulator the Scottish Environment Protection Agency (SEPA). It is now prescribed, recommended and used around the world, including in Chile, allowing

farmers to calculate the optimal productions levels at each farm site, while complying with regulatory standards. SAMS Enterprise staff were on stand at AquaSur to discuss how NewDEPOMOD has been developed over the past two decades and what the future holds for the technology.



SAMS Enterprise business development manager Daniel Carcajona, whose native language is Spanish, said he was looking forward to meeting new and existing customers of NewDEPOMOD. “AquaSur is an important event in global terms, so we are looking forward to making new connections in the Chilean aquaculture sector, as well as strengthening our ties with existing customers. We are proactively working with clients and collaborators globally to ensure NewDEPOMOD meets regulatory requirements and optimises production in various regions and countries.”

The software can play an important role in the sustainability and performance of a farm, allowing managers to assess optimum production, based on factors such as currents, fish biomass and pen layout. The range of licence holders for NewDEPOMOD comprises industry members, academic researchers, consultants and regulators. Dr Jirina Stehlikova, an environmental consultant and project manager at SAMS Enterprise also attended AquaSur. She said: “I am pleased to have the opportunity to learn directly from users of the model how they benefit from it and what we can do to help improve their experience. NewDEPOMOD is the result of more than 20 years of development, using bathymetry, flow and farm data from different sites and environments.” For more information on NewDEPOMOD, see: <https://www.sams-enterprise.com/products/depomod/>.

How best to monitor, report and verify ocean-based carbon dioxide removal (oCDR)

Leading academics, governmental and industry representatives from across the globe gathered in London recently to discuss different approaches to ocean-based carbon dioxide removal (oCDR), also known as mCDR (marine carbon dioxide removal) as part of a workshop chaired by SeaCURE partners, the University of Exeter and Plymouth Marine Laboratory (PML).

As the urgency of addressing climate change becomes increasingly apparent, there is growing recognition of the need to not only reduce carbon emissions but also actively remove carbon dioxide (CO₂) from the atmosphere. Ocean-based carbon dioxide removal (oCDR), is the process of removing CO₂ from the atmosphere by utilizing marine chemistry or ecosystems. oCDR is a rapidly growing area and has attracted significant interest and investment in recent years. The focus of the London event was to consider approaches and requirements for the Monitoring, Reporting and Verification (MRV) of engineered carbon removal projects, <https://www.pml.ac.uk/News/IN-DISCUSSION-How-best-to-monitor-report-and-verif>. In the context of carbon removal, MRV refers to the processes and systems put in place to accurately measure, report, and verify the amount of CO₂ removed from the atmosphere and then stored.

Meeting Chair, Prof. Paul Halloran from the University of Exeter, said: “Through projects such as SeaCURE, we’re able to rigorously assess the potential of ocean-based carbon dioxide removal and identify the challenges that may prevent this potential being realised. Today’s event highlighted the complexity of MRV for ocean-based carbon removal techniques but also the overlap in terms of the areas that key stakeholder groups are interested in. It was a hugely valuable exercise in finding common ground and also those points of difference, looking at what needs to be measured and how it might be reported, thinking about the frequency and options for monitoring, the costs and technologies involved, and identifying the priorities that need to be addressed in order to move this area forward effectively”.

Professor Tom Bell, Ocean-Atmosphere Biogeochemist and SeaCURE project lead at PML, said: “To ensure ocean-based carbon removal is carried out in a sustainable way we

need an understanding of what levels of monitoring, reporting and verification, are practicable, acceptable and technically feasible. Getting scientists, government, and industry around the table has been great way of working towards some agreed principles of best practice to help build confidence and realise the full potential of oCDR. There was general consensus that acceptable MRV is achievable and that is something that is incredibly positive".

Prof. David Ho from the University of Hawai'i at Mānoa said: "There has been increasing interest and momentum for researching marine carbon dioxide removal (mCDR) in the United States, and it's great to see enthusiastic engagement from our colleagues and government agencies in the United Kingdom. MRV is one of the most crucial aspects of mCDR that we need to get right. It's an area where marine biogeochemists can make a valuable contribution, and that's why I was excited to participate in the SeaCURE MRV Workshop. I hope that [C]Worthy can collaborate with SeaCURE on MRV in the future".

Dr Sophie Gill, Marine Carbon Removal Lead at Isometric, a carbon removal registry which develops protocols for carbon credits, said: "It's very interesting to understand the diverse perspectives across the carbon removal community and gain perspectives on the various challenges associated with MRV. That is really important to us when it comes to building MRV protocols in order to ensure they are both scientifically rigorous and operable – so that we can facilitate scaling in a responsible way".

Dr Christopher Pearce, Principal Marine Geoscientist at the NOC and scientific lead of the SEA02-CDR Horizon Europe research programme, said: "Establishing rigorous, achievable and affordable MRV processes is critical for ensuring that oCDR approaches can be tested, developed and, where appropriate, implemented in an environmentally safe, socially acceptable and economically viable way. This workshop was a great opportunity to hear cross-sectoral perspectives on MRV requirements, and the discussions helped identify many of the current challenges and future priorities for progressing this important topic". A Summary of the SeaCURE project is available at <https://www.pml.ac.uk/News/%C2%A33-million-for-new-carbon-capture-project-and-pilo>

Fluidion Alert-One used to inform the University Boat Race organisers

The New Alert-One portable E.Coli system from Fluidion was used by the Rivers Action Group to monitor the river Thames in advance of the annual university boat race between Oxford and Cambridge on the Thames in London. Their monitoring over several days showed average E.Coli levels of 2,869 E coli colony forming units (CFU) per 100ml of water in 16 tests around Hammersmith Bridge, which is just short of halfway along the 4.25 mile Boat Race course. The tradition of the winners jumping into the river was probably not be a great idea this year. A report in the Guardian Newspaper told the [whole story](#).



Introducing 'Oceanus' - the world's first long-range, autonomous research vessel

Plymouth Marine Laboratory (PML) are pleased to share a new CGI video introducing 'Oceanus' <https://www.youtube.com/watch?v=8-X1uebwbU4>, the world's first long-range, autonomous research vessel, set to usher in a new era for net-zero oceanography and advanced international marine research. Supported by seed funding from the Natural Environment Research Council (NERC), the sleek, futuristic-looking and fully uncrewed 'Oceanus' has been designed as a self-righting, light-weight, mono-hulled autonomous vessel capable of carrying an array of monitoring sensors to collect data in remote and challenging areas of the ocean, for research into critical areas such as climate change, biodiversity, fisheries and biogeochemistry.

PML are currently exploring opportunities for further support and funding in order to progress to the build phase, which would take around two years to complete. Find out more at <https://www.pml.ac.uk/News/CGI-impression-of-%e2%80%98Oceanus%e2%80%99-the-world-%e2%80%99s-first-long> and please contact comms@pml.ac.uk if you would like to discuss further. PML thank M Subs Ltd (<https://www.msubs.com/>) for commissioning the 'Oceanus' video and for producing the vessel designs. M Subs Ltd is a company that specialises in the design, manufacture and

operation of manned and unmanned vehicles for military and commercial markets.

PML chief executive [Professor Icarus Allen](#) said: “A statistic I find quite shocking is that, to date, humans have explored less than 5% of the world’s oceans. And yet, the ocean does so much for us. It’s absorbed at least 25% of carbon emissions that we have emitted. It also absorbs over 90% of the excess heat resulting from greenhouse gases, and, most importantly we humans, get between 50% and 80% of the oxygen we breathe from the ocean. It is vital now, more than ever, to improve our understanding of the ocean and the changes taking place within it, the ocean is facing huge challenges and it’s vital we have as much evidence as possible to support decisions on how to protect and manage it sustainably.”

SALTS

Leading scientists reach milestone anniversary researching the AMOC to better understand climate change

On the 28th March) scientists from the [National Oceanography Centre](#) (NOC) embarked on the 20th anniversary expedition of researching the Atlantic Meridional Overturning Circulation (AMOC), as part of its [RAPID](#) programme. The AMOC is the main current system in the South and North Atlantic Oceans and plays an important role in the climate system. The anniversary expedition is part of NOC’s industry leading research programme, RAPID, which observes the AMOC to better evaluate future changes in climate. It is undertaken in collaboration with experts from the University of Miami and National Oceanic Atmospheric Administration in the USA.

The expedition will see NOC’s team service and update the RAPID-AMOC 26° N array, which was first deployed in April 2004. This makes it one of the longest running, continual sustained deep-ocean observation arrays in the world. So far observations, using cutting-edge technology and instruments, secured across a section of ocean 5000m deep, have revolutionised the understanding of the AMOC’s variability and documented its impacts on our long term climate and seasonal European weather.



During the first few years of expeditions, NOC’s team demonstrated the feasibility of AMOC observation measurements, and provided new insights into the seasonal cycle, ultimately allowing experts around the world to understand climate change in greater depth. Speaking on the importance of measuring the AMOC, Dr Ben Moat, Expedition Chief Scientist, at NOC, said: “Observing and understanding the changes in the AMOC are critically important for identifying the mechanisms of climate variability. This type of sustained observation is necessary for assessing the possibility of future abrupt changes in the AMOC and the subsequent impacts and effects. The AMOC observed at 26° N is also critically important as a benchmark to determine the uncertainty in climate model projections of our climate. NOC researchers are working with international partners to develop new climate models to provide better actionable evidence for climate mitigation and adaptation.”



The AMOC is a highly complex system of ocean currents which can have a direct influence on the weather and climate. The importance of the AMOC lies in its ability to move heat over thousands of kilometres from one end of the Atlantic Ocean to another. Even small changes in the strength of the AMOC, and especially the rate at which it transports warm water to the North Atlantic, can bring about large changes in the air temperature and rainfall that we receive in the UK. It can also change rainfall in the Amazon Basin and over central Africa, the strength of hurricanes in the Caribbean, and even the severity of monsoons in southeast Asia.

RAPID has been a continuous international collaboration funded by the UK Natural Environment Research Council (NERC) and the US National Science Foundation (NSF). It demonstrates the impact of global partnerships, enabled by world leading experts and facilities, and is why we're the UK's national centre of excellence for large-scale, long-term sustained oceanographic research. To find out more about the NOC's current RAPID expedition, please visit <https://noc.ac.uk/expeditions/dy174-expedition-rapid-east> and search social media for #DY174 and #RAPID20.

On location in Gran Canaria

Thanks to some favourable weather conditions, the second week of technical trials at the PLOCAN facility in Gran Canaria has seen plenty of in-water activity. National Oceanography Centre (NOC) engineers and scientists launched ALR5 for a 24-hour deployment designed to test novel Lab on Chip sensors and the RoCSI sampler developed by NOC's Ocean Technology & Engineering (OTE) team. They also deployed ALR3 which is currently fitted with the University of Southampton's BioCAM benthic imaging system, to trial advances in onboard image classification and over-the-horizon data transmission.



Follow the [TechOceanS trials on 'X' \(twitter\)](#) supporting the development of nine innovative technologies: for deep sea sensing, sample collection, on-board image analysis and remote data transmission.

CALENDAR

7th-8th May 2024: Arctic Circle Berlin Forum
Berlin, Germany

Registration is now [open](#), join the dialogue, receptions and networking; the draft programme is now [published](#). The Arctic Circle Secretariat introduces the 2024 Arctic Circle Berlin Forum, hosted by the Federal Ministry of Education and Research and co-organized with the German Arctic Office at the Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research. Please direct any further inquiries about the Berlin Forum to berlin@arcticcircle.org.

14th–16th May 2024: Third Annual Conference for the Sustainable Management of UK Marine Resources (SMMR)

Bristol, UK

We look forward to welcoming you to the Third Annual SMMR Conference; focusing on the delivery of tools and interventions to inform policy, regulation and management, this conference will be held as a hybrid event. For those able to attend in person, we invite you to join us at the [M-Shed](#) in Bristol, and for those wishing to participate remotely, we will welcome you to the conference via our online Platform. This transdisciplinary conference brings together members of the UK marine science community, funders, policy makers and practitioners: for more information, visit <https://www.smmr.org.uk/conference/>.

The first day and the afternoon of the third day will be devoted to workshops. The second day and the morning of the third day will bring together expert plenary speakers and contributed talks and posters outlining the latest research and management practices that address key topics related to the sustainable management of UK marine resources. You will also be able to enjoy networking with your peers and making new contacts across the UK marine science research and practitioner community. Each presentation session will be composed of a small number of presentations, followed by a live Q&A session with the speakers as panel members.

15th-18th May 2024: 6th Euro-Mediterranean Conference for Environmental Integration (EMCEI)

Marrakesh, Morocco

In partnership with the editorial office of the Euro-Mediterranean Journal for Environmental Integration (co-published by Springer and University of Sfax, Tunisia) and in collaboration with the Cadi Ayyad University (Morocco), Mohammed VI Polytechnic University (UM6P),

and other Euro-Mediterranean universities, Performer organizes the 6th EMCEI.



The 6th EMCEI will focus on a wide range of research topics. Visit our website, www.emcei.net, to learn more about the event.

- EMCEI is one of the largest international gatherings of environmental science in the Mediterranean (400-500 participants).
- EMCEI aims to provide a forum where scientists, especially early career researchers, will present their findings and discuss their ideas with experts in all fields of environmental sciences.

22nd–23rd May 2024: Structures in the Marine Environment (SIME) conference 2024

Edinburgh, Scotland

The INSITE Programme and MASTS are pleased to announce that the SIME 2024 conference will be held at the [National Museums of Scotland, Edinburgh](#). Please [register](#) to secure your place for in-person and online tickets available.

Join us on Day 1 (9.00am-5.00pm) to hear the latest highlights from our research teams and a review of all the outputs across 4 years of the INSITE programme featuring Prof. Paul Fernandes, Prof. Joanne Porter, Ast. Prof. Antony Knights, Prof. Richard Thompson OBE, Dr Debbie Russell, Dr Tom Wilding, Prof. Dan Jones, Dr Sarah Gall, Dr Steven Watson, Dr Joshua Lawrence and more. We will be showcasing the research from INSITE’s second phase, which is coming to an end later this year. Sign up to learn the latest about:

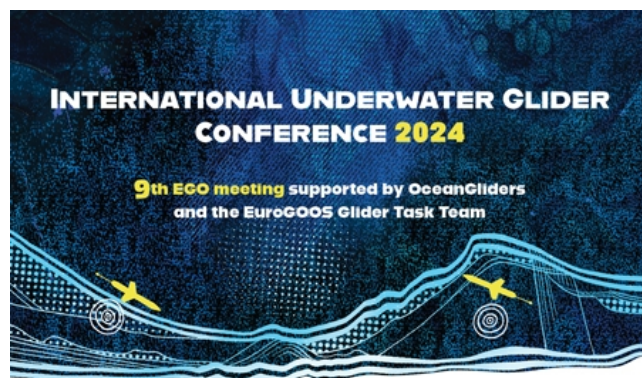
- Foraging patterns of marine predators.
- Applications of the UK autonomous fleet.
- Microbial biodiversity and biological connectivity, fish aggregation and blue carbon benefits of Marine Artificial Structures (MAS).
- The efficacy of decommissioning strategies.

- Artificial Intelligence and eDNA analysis approaches.
- And, the effects and implications of subsea plastics incorporated into Marine Artificial Structures.

On Day 2 (9.00am-1.00pm) we will be looking at the practical application of INSITE science. Learn about the policy landscape, drivers and challenges in offshore energy decommissioning and the energy transition to Net Zero. Learn about the effects, benefits and implications of Marine Artificial Structures, and discuss how cutting-edge, applied science can assist decision-makers and support delivery of future policies for sustainable management of our ocean.

10th-14th June 2024: The 9th EGO meeting International Underwater Glider Conference Gothenburg, Sweden

The International Underwater Glider Conference aims to bring together leading researchers, innovators, and experts from around the globe to exchange knowledge, share discoveries, and foster collaborations in the exciting realm of underwater gliders.



SAVE THE DATE

We are excited to announce that we will be part of hosting the next International Underwater Glider Conference.

Gothenburg, Sweden
June 10 - 14 / 2024

- ▶ Registration form to be sent out separately
- ▶ Call for abstract open on **September 2023**

Get excited by:

- Cutting edge science
- Plenary, workshops, and training sessions
- Scientists and industry gathered in one place

If you have any questions, don't hesitate to contact:
louise.biddle@voiceoftheocean.org -or- vturpin@ocean-ops.org



The conference promises to be an engaging platform for sharing insights, addressing challenges, and shaping the future of this field. We plan for presentations, workshops, poster sessions, and networking opportunities. The planning team will return to you with event registration, hotel suggestions, and more information about financial support during the coming months. In the meantime, I encourage you to mark the dates in your calendar.

19th June 2024: Marine Measurement Forum 66

Southampton, UK

The Marine Measurement Forum (MMF) is a series of one-day, non-profit making events that has been running since 1983 which provides excellent opportunities for networking and the informal exchange of ideas, knowledge, techniques and developments across an extensive range of marine scientific measurement activities.

During an MMF 'day' a series of short presentations on diverse marine measurement topics are interspersed with refreshment breaks that offer delegates the chance to network with like-minded colleagues. Attendees typically include scientists, surveyors, engineers and business people from a variety of organisations including research centres, academia, manufacturers, defence organisations, survey companies, consultancies, monitoring authorities, dredging companies, port authorities, energy companies and trade associations.

To submit an abstract to present please [click here](#). Registration to attend the event is £45.00 per person this includes access to the meeting, refreshments and working lunch. To register to attend please [click here](#).

8th-12th July 2024: AMEMR Conference 2024

Plymouth, UK



Welcome to the 7th AMEMR conference; full details at www.amemr.com/. The AMEMR (Advances in Marine Ecosystem Modelling Research) Symposium series provides an

opportunity to present, discuss and learn about a wide variety of marine modelling challenges, methods, applications and outcomes.

Over the years AMEMR has grown into the forum to present and absorb the latest developments in marine (eco)system modelling and discuss new challenges and opportunities. It is a great place to develop networks and we encourage Early Career Researcher involvement. Check out the Themes and sessions for AMEMR 2024 at www.amemr.com/themes-and-sessions.html.

You can also follow us on Twitter [@amemr_updates](https://twitter.com/amemr_updates).

9th July 2024: IMarEST Annual Conference 2024

Southampton, UK

[Register](#) for our Annual Conference, returning for 2024, where once again we'll bring together engineers, scientists, technologists and other professionals from across our membership for a day of debate, exploration and discovery. If you would like to present your work at the conference, provide the Events Team with some details and a copy of your presentation, events@imarest.org.

We've [designed the day](#) with three streams, making it easy for you join the discussions most important to you:

Technology - Demystifying fuel options and scrutinising the diverse fuel landscape, analysing available technologies, infrastructure capabilities, and long-term viability.

Human Contributions - Achieving emission targets and deconstructing the intricate web of regulations and political landscapes impacting them and the crucial role of state-led support.

Environment - Looking at the ripple effects of new fuel productions and evolving emission targets on the maritime industry's wider sustainability footprint.

2nd-6th September 2024: Challenger Society for Marine Science conference 2024

Oban, Scotland

We are pleased to announce that abstract submission is now open for the Challenger 2024 conference. The abstract submission deadline is the 30th April. Please find all the information

about abstract submission and details of the conference on the Challenger 2024 website: <https://challenger2024.co.uk>.

Oban is a beautiful coastal location, but as a tourist destination accommodation gets booked up very quickly. If you are interested in attending, it is advised that you book accommodation as soon as you can. Accommodation options can be found on the conference website and there may also be an option for free camping at SAMS for those who would like to reduce costs, details to follow shortly.

10th-12th September 2024: ICOS Science Conference 2024, from GHG observations through science to services.

Versailles, France

ICOS (Integrated Carbon Observation System) is pleased to open the Call for Abstracts with the overarching theme “From GHG observations through science to services”, the sessions cover ICOS’s three domains, Atmosphere, Ecosystem and Ocean.

The extended abstract submission deadline is Monday 22nd April, 2024, 12:00 CEST. When submitting your abstract, please select the session for which your conference presentation is intended. Below is the list of sessions, and the full list of sessions can be viewed [here](#); [Submit your abstract here](#).

More information can be found here: <https://www.icos-cp.eu/news-and-events/science-conference/icos2024sc/call-for-abstracts>.

The ICOS Science Conference logo can be downloaded for this purpose [here](#). Keep up-to-date with the latest ICOS Science Conference news on our channels:

- ICOS Science Conference website: <https://www.icos-cp.eu/news-and-events/science-conference/icos2024sc>
- ICOS Science Conference newsletter: <https://www.icos-cp.eu/news-and-events/newsletters>
- X (formerly Twitter): https://twitter.com/ICOS_RI
- LinkedIn: <https://linkedin.com/company/integrated-carbon-observation-system>
- Instagram: <https://www.instagram.com/icosri/>

23th-26th September 2024: IMBIZO7, Transitioning towards Sustainable Ocean Governance by 2030, Commitments and Challenges

Rabat, Morocco

IMBeR will hold its seventh IMBIZO (the Zulu word for 'a gathering') at the Institut Agronomique et Vétérinaire Hassan II (IAV) in Rabat, Morocco. IMBeR aims to promote and enable transdisciplinary marine research towards ocean sustainability and its governance. Topics addressed during IMBIZO7 will showcase current and emerging research, and explore potential solutions towards sustainable ocean governance by 2030, the target of multiple global sustainability initiatives.



We will follow the usual IMBIZO format of three distinct but interacting workshops. To optimise discussions, the number of IMBIZO7 participants will be limited to about 120 people (around 40 per workshop). The workshop topics are:

1. Science based adaptive management and policy responses to the causes and consequences of eutrophication.
2. A framework for development of social-ecological models of transformative change for sustainable ocean management.
3. Governance transformations for resilient fisheries and aquaculture: Progressions, challenges and opportunities, [imber.info/imbizo7-workshop-3/](https://www.imber.info/imbizo7-workshop-3/).

Plenary keynote presentations and poster sessions will enable you to learn about the work of participants in other two workshops.

14th-18th October 2024: 43rd CIESM Congress: Marine and Cultural Heritage in the Heart of the Mediterranean

Palermo, Italy

Join us after a 2-year hiatus imposed by the global pandemic and subsequent issues, we are excited to resume our traditional marine research

April 2024

showcase. This event will foster scientific excellence and promotes peaceful dialogue across the Mediterranean and Black Sea basins. Sicily, the chosen location for our next congress, offers a stunning backdrop, combining marine science with rich coastal heritage in a region steeped in cultural and historical significance.



Dive deep into the realm of open science with our first morning plenary panel. This strategic discussion will explore the benefits and challenges of open science practices, towards more sustainable and reliable scientific publication policies. Join leading experts debating on popular science, unbalancing and distorting science, incentives versus regulations, science marketing and non commercial licences, and ethical use of AI.

You can now register & submit your Congress paper [online](#). Please, do not hesitate to contact us if you need any additional information, but be sure to check first our [Congress webpages](#).

Our 2024 CIESM (The Mediterranean Science Commission, headquartered in Monaco) Congress will explore a wide range of marine disciplines, featuring multidisciplinary scientific sessions and contextual side events that will immerse you in the unique Sicilian atmosphere. Save the date and stay tuned for regular updates on the rich scientific and cultural programme throughout 2024.

17th-19th October 2024: Arctic Circle 2024 Assembly

Reykjavik, Iceland

The call for session proposals is now open, the deadline is the 1st May. Diversity among speaker backgrounds, affiliations and nationality is strongly encouraged. To submit, please visit www.arcticcircle.org/assemblies/2024-arctic-circle-assembly-call-for-proposals, following the guidelines provided. For more information, <http://www.arcticcircle.org>. Registration will open in early June.



25th-28th November 2024: The 4th Mediterranean Geosciences Union Annual Meeting.

Barcelona, Spain

The 4th MedGU Annual Meeting will be held this year in-person and online. Visit our website (www.medgu.org) to learn more about the event. On this occasion, we are pleased to invite you to take part in the conference and share/discuss your latest research findings. Your participation in-person or virtually will support MedGU's mission of ensuring a sustainable future for humanity in the region and for the planet. The abstract submission deadline is the 30th June, download the [call for papers](#).

The CSMS email address is challenger.society@gmail.com. Contributions for next month's edition of Challenger Wave should be sent to: john@myocean.co.uk by the 30th April.

JOBS and OPPORTUNITIES

Lecturer/Senior Lecturer in Marine Science at the University of Edinburgh

A new position as Lecturer/Senior Lecturer in Marine Science is open in the School of GeoSciences at the University of Edinburgh. All information is available at the link below and the application deadline is 7th May.

https://elxw.fa.em3.oraclecloud.com/hcmUI/CandidateExperience/en/sites/CX_1001/job/10133/?utm_medium=jobshar

There are jobs in the MASTS newsletter

New vacancies:

- University Teacher In Marine Science – [University Of Edinburgh](#) – 29/04/24
- Digital And Data Solutions Co-Team Leader – [JNCC](#) – 06/05/24
- Chief Scientific Officer – [National Oceanography Centre](#) – 03/05/24
- Post Doctoral Research Assistant – [ZSL](#) – 21/04/24
- Executive Director – [Dalhousie University](#) – 02/25/24

Still open vacancies:

- Lecturer, Senior Lecturer In Marine Science – [University Of Edinburgh](#) – 05/07/24
- Call For Applications: [UK ESSAC Alternate Delegate](#) – 01/05/24.
- Fisheries Stock Assessor Scientist – [Cefas](#) – 29/04/24
- Research Assistant/Associate In Experimental Fluid Mechanics – [Newcastle University](#) – 30/04/24
- Technical Delivery Manager – [JNCC](#) – 17/04/24
- **LAST CHANCE:** PDRA in Marine Conservation, Restoration and management – [SAMS](#) – 19/04/24
- Marine Aquarium Technician – [BAS](#) – 21/04/24
- **LAST CHANCE:** Programme Management Officer – [UNEP](#) - 18/04/24
- Consultant in Marine Physical And Coastal Processes – [Xodus](#) – 04/24
- Senior/Principal Consultant in Marine Physical And Coastal Processes – [Xodus](#) – 04/24

PhD Opportunities:

- **NEW:** Managing The Environmental Impact Of Antifouling Biocides In Recreational Marinas Through Stakeholder Engagement – [University Of Essex](#) – 31/05/24
- **NEW:** Climate Change Impacts to Marine Ecosystems (CLIME) in UK Regional Seas – [SUERC](#) – 31/05/24
- Investigating Comprehensive Sustainability Indicators For Global Aquaculture – [University Of Stirling](#) – 24/04/24
- How Does Antimicrobial Resistance Impact on Seafood Supplies? Developing Our Understanding to Ensure Future Resilience – [University of Stirling](#) – 24/04/24
- EPSRC PhD Scholarship In [Improving The Accessibility Of Offshore Wind Infrastructure In Hostile Environments](#) – Heriot Watt University – 26/4/24

There are jobs on the IMBER web site

<https://imber.info/category/news/>

New

- Program Director: Arête Glacier Initiative, Boston MA and New York, USA. Apply now. No deadline given
- Call for applications: UN Early careers program
- Human resources and equity manager: Washington Sea Grant. Seattle, WA, USA. Open **until filled**
- Research assistant: Biological oceanographer, SSAI, Greenbelt, MD, USA. Open til filled
- Postdoc: Climate adaptation in marine ecosystems, SANBI, Cape Town, South Africa. Apply by **18 April**
- Addressing climate change residency: Bellagio Center, Lake Como, Italy. Apply by **25 April**
- UNESCO Ocean summer school: Ocean literacy and collaboration. 1-5 July, Malmö, Sweden. Apply by **30 April**
- Research Associate: Aquatic Biochemistry, Imperial College London, Berks, UK. Apply by **30 April**
- POGO-SCOR Fellowship Programme: Ocean observation training. Apply by **30 April**
- Postdoc: ISBlue, Brest, France. Apply by **30 April**
- Three postdocs: Marine ecosystem modelling, UMR MARBEC, Montpellier, France. Apply by **1 May**

In case you missed it...

- Postdoc: Climate and Bue Food, Stanford Center for Ocean Solutions, Stanford, CA, USA. Apply **now**
- Postdoc: Ocean biophysical interactions, LOCEAN-IPSL, Paris, France. Apply **now**
- Chief of Party for USAID project Marine Conservation, Sustainable Development and Governance project in Madagascar. Applications accepted on rolling basis
- Assoc.Prof: Marine geoscience, University of Bergen, Bergen, Norway. Open until filled
- Research Assistant: Biological Oceanography, Science Systems and Applications, Inc. Greenbelt, MD, USA. Open til filled
- 4 Postdocs: Marine sciences, ISblue, Brest, France. Apply by **30 April**
- Project Manager: Oceans without Borders, Africa Foundation, Mnemba Island, Zanzibar, Tanzania..

Apply by **30 April**

- 3 Postdocs: Marine Ecosystem Modelling IRD, IFREMER, MARBEC, Montpellier, France. Apply by **1 May**
 - Simons Foundation Postdoc Fellowships: Marine microbial ecology. Apply by **7 May**
 - Africa-UBC Oceans and Fisheries Visiting Fellows Program: Early career researchers from sub-Saharan. Apply by **15 May**
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